

CLAIMS

What is claimed is as follows:

- Su  
x3 > 1 1. A method of marking a chip having surfaces comprising the following steps:  
2 forming internal marking indicia on a marking location upon an  
3 exterior surface of the chip for identification of the chip, and  
4 forming a non-black, optically transmissive material over at least the  
5 marking location on the one exterior surface of the chip.
- Su  
x3 > 6 2. The method of claim 1 wherein the non-black, optically transmissive material  
7 comprises a non-black, transparent or semi-transparent material.
- Su  
x3 > 8 3. The method of claim 1 wherein the non-black, optically transmissive material  
9 is used for environmental protection and handling of the silicon devices.
- Su  
x3 > 10 4. The method of claim 2 including the steps of:  
11 directing electromagnetic radiation upon the internal marking indicia  
12 through the non-black optically transmissive material and  
13 reading the internal marking indicia in response to images of the  
14 internal marking indicia provided by reflections of the electromagnetic  
15 radiation.
- 16 5. The method of claim 1 wherein the non-black, optically transmissive material  
17 comprises a colored material.
- Su  
x5 > 18 6. The method of claim 1 wherein the non-black, optically transmissive material  
19 prevents remarking indicia or identification marks on the device.

- 1 7. The method of claim 1 wherein the non-black, optically transmissive material  
2 prevents remarking silicon for a semiconductor package and the optically  
3 transmissive material is a transparent material.

4 8. The method of claim 7 including the steps of:  
5       directing electromagnetic radiation upon the internal marking indicia  
6 through the non-black optically transmissive material, and  
7       reading the internal marking indicia in response to images of the  
8 internal marking indicia provided by reflections of the electromagnetic  
9 radiation.

10 9. A method of marking an electronic integrated circuit chip having surfaces  
11 comprising the following steps:  
12       forming a semiconductor, integrated circuit chip having surfaces  
13 including a planar front surface, a planar back surface and edges of the  
14 chip between the planar surfaces with at least one electrical contact site on  
15 on a surface,  
16       forming internal marking indicia upon an exterior marking portion of a  
17 surface of the chip for identification of the chip, and  
18       forming a non-black layer covering the exterior surface of the chip at  
19 least at the exterior marking portion thereof, the non-black layer being  
20 composed, of a colored, optically transmissive material preventing remarking  
21 the indicia on the exterior marking surface of the chip,  
22 whereby the indicia are visible through the non-black layer.

1 10. The method of claim 9 including the steps of:

2           directing electromagnetic radiation upon the internal marking indicia  
3           through the non-black optically transmissive material and  
4           reading the internal marking indicia in response to images of the  
5           internal marking indicia provided by reflections of the electromagnetic  
6           radiation.

7 11. A method of marking a chip having surfaces comprising:

8           forming a non-black, colored material layer over at least an exterior  
9           surface of the chip wherein the particular color indicates the identification  
10          of the chip.

11 12. A method of marking a chip having surfaces comprising:

12          forming internal marking indicia on a marking location upon an exterior  
13          surface of the chip, and

14          forming a non-black, optically transparent material colored with a  
15          particular color over at least the marking location on that exterior surface of  
16          the chip wherein the particular color together with the marking indicia  
17          represents identification of the chip.

18 13. A chip comprising:

19          the chip having exterior surfaces,

20          internal marking indicia formed on a marking location upon an exterior  
21          surface of the chip for identification of the chip, and  
22          a non-black, optically transmissive material formed over at least the  
23          marking location on the one exterior surface of the chip.

- 1 14. The device of claim 13 wherein the non-black, optically transmissive material  
2 comprises a non-black, transparent or semi-transparent material.
- 3 15. The device of claim 13 wherein the non-black, optically transmissive material  
4 comprises a colored material.
- 5 16. The device of claim 13 wherein the non-black, optically transmissive material  
6 prevents remarking indicia or identification marks on the device.
- 7 17. The device of claim 13 wherein the non-black, optically transmissive material  
8 prevents remarking silicon for a semiconductor package and the optically  
9 transmissive material is a transparent material.
- 10 18. The device of claim 13 wherein:  
11       illumination means are provided for directing electromagnetic radiation  
12       upon the internal marking indicia through the non-black optically  
13       transmissive material and  
14       reading means are provided for reading the internal marking indicia in  
15       response to images of the internal marking indicia provided by reflections of  
16       the electromagnetic radiation.
- 17 19. The device of claim 13 wherein the non-black, optically transmissive material  
18       is used for environmental protection and handling of the silicon devices.

1 20. The device of claim 14 wherein:

2           illumination means are provided for directing electromagnetic radiation  
3 upon the internal marking indicia through the non-black optically  
4 transmissive material and

5           reading means are provided for reading the internal marking indicia in  
6 response to images of the internal marking indicia provided by reflections of  
7 the electromagnetic radiation.

8 21. The device of claim 17 wherein:

9           illumination means are provided for directing electromagnetic radiation  
10 upon the internal marking indicia through the non-black optically  
11 transmissive material and

12           reading means are provided for reading the internal marking indicia in  
13 response to images of the internal marking indicia provided by reflections of  
14 the electromagnetic radiation.

15 22. An electronic integrated circuit chip comprising:

16           a semiconductor, integrated circuit chip having surfaces including a  
17 planar front surface, a planar back surface and edges of the chip between  
18 the planar surfaces with at least one electrical contact site on a surface,

19           indicia marked upon an exterior marking portion of a surface of the  
20 chip for identification of the chip,

21           a non-black layer covering the exterior surface of the chip at least at  
22 the exterior marking portion thereof, the non-black layer being composed,  
23 of a colored, optically transmissive material preventing remarking the indicia  
24 on the exterior marking surface of the chip, and

25           the indicia being visible through the non-black layer.

1 23. The device of claim 22 wherein:

2           illumination means are provided for directing electromagnetic radiation  
3       upon the internal marking indicia through the non-black optically  
4       transmissive material and

5           reading means are provided for reading the internal marking indicia in  
6       response to images of the internal marking indicia provided by reflections of  
7       the electromagnetic radiation.

8 24. A chip with a non-black, colored material layer over at least an exterior  
9       surface of the chip wherein the particular color indicates the identification  
10      of the chip.

11 25. A chip comprising:

12           internal marking indicia formed on a marking location upon an exterior  
13       surface of the chip, and

14           a non-black, optically transparent material colored with a particular  
15       color formed over at least the marking location on that exterior surface of  
16       the chip wherein the particular color together with the marking indicia  
17       represents identification of the chip.